

Appl. No. 10/708,642
Amdt. dated April 13, 2006
Reply to Office action of February 13, 2006

Amendments to the Claims:

1. (Previously presented) A front-end array process for making a liquid crystal display panel, comprising:
 - 5 depositing a molybdenum-containing metal layer on a glass substrate;
forming a patterned photoresist on said molybdenum-containing metal layer,
wherein said patterned photoresist defines a gate and word line array pattern;
and
using said patterned photoresist as an etching mask, uniformly etching said
10 molybdenum-containing metal layer to form said gate and word line array
pattern having substantially oblique sidewalls, wherein said etching of said
molybdenum-containing metal layer uses gas mixture.
2. (Original) The front-end array process for making a liquid crystal display panel
15 according to claim 1 wherein after said etching of said molybdenum-containing metal
layer, an over etching is carried out.
3. (Previously presented) The front-end array process for making a liquid crystal
display panel according to claim 1 wherein fluorine/oxygen containing gas mixture is
20 SF_6/O_2 having a ratio of about 700sccm/300sccm.
4. (Original) The front-end array process for making a liquid crystal display panel
according to claim 1 wherein said etching of said molybdenum-containing metal layer is
executed under a process pressure higher than 25 mTorr.
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5. (Original) The front-end array process for making a liquid crystal display panel
according to claim 1 wherein said etching of said molybdenum-containing metal layer is

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further controlled by a source power, a bias power, process pressure, oxygen flowrate and flowrate of fluorine containing gas.

5 6. (Original) The front-end array process for making a liquid crystal display panel according to claim 1 wherein said molybdenum-containing metal layer is a dual-metal layer.

10 7. (Previously presented) The front-end array process for making a liquid crystal display panel according to claim 6 wherein said dual-metal layer is Mo/AlNd, MoW/AlNd, or MoW/Al, wherein Mo and MoW are top layers, while AlNd and Al are bottom layers.

15 8. (Original) The front-end array process for making a liquid crystal display panel according to claim 1 wherein said etching of said molybdenum-containing metal layer is detected by an end-point detection method at a wavelength of about 704nm.

9. (Original) The front-end array process for making a liquid crystal display panel according to claim 1 wherein said gas mixture is oxygen/fluorine containing.

20 10. (Original) The front-end array process for making a liquid crystal display panel according to claim 1 wherein said gas mixture is oxygen/chlorine containing.

25 11. (Original) The front-end array process for making a liquid crystal display panel according to claim 1 wherein said gas mixture is oxygen/chlorine/fluorine containing.

12. (Original) The front-end array process for making a liquid crystal display panel according to claim 1 wherein said gas mixture is SiF₄/O₂ containing.

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13. (Currently amended) A front-end array process for making a liquid crystal display panel, comprising:
depositing a molybdenum-containing metal layer on a glass substrate;
5 forming a patterned photoresist and defining a gate and word line array pattern on said molybdenum-containing metal layer; and
etching said molybdenum-containing metal layer by using fluorine/oxygen containing gas mixture containing SF₆/O₂ with a ratio of about 700sccm/300sccm, and using said patterned photoresist as an etching mask to
10 form said gate and word line array pattern.
14. (Previously presented) The front-end array process for making a liquid crystal display panel according to claim 13 wherein said gate and word line array pattern have substantially oblique sidewalls.
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15. (Original) The front-end array process for making a liquid crystal display panel according to claim 13 wherein after said etching of said molybdenum-containing metal layer, an over etching is carried out.
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16. (Canceled)
17. (Original) The front-end array process for making a liquid crystal display panel according to claim 13 wherein said etching of said molybdenum-containing metal layer is executed under a process pressure higher than 25 mTorr.
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18. (Original) The front-end array process for making a liquid crystal display panel according to claim 13 wherein said etching of said molybdenum-containing metal layer is detected by an end-point detection method at an wavelength of about 704nm.

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19. (Original) The front-end array process for making a liquid crystal display panel according to claim 13 wherein said molybdenum-containing metal layer is a dual-metal layer.

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20. (Previously presented) The front-end array process for making a liquid crystal display panel according to claim 19 wherein said dual-metal layer is Mo/AlNd, MoW/AlNd, or MoW/Al, wherein Mo and MoW are top layers, while AlNd and Al are bottom layers.

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